

September 18, 2015

MARK PEACOCK
DUKE ENERGY EDWARDSPORT IGCC
15424 E. STATE ROAD 358
Edwardsport, IN 47528

RE: Project: Edwardsport Grey Water Profile
Pace Project No.: 50127521

Dear MARK PEACOCK:

Enclosed are the analytical results for sample(s) received by the laboratory on September 11, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt
kenneth.hunt@pacelabs.com
Project Manager

Enclosures

cc: RANDY MONK, DUKE ENERGY EDWARDSPORT IGCC
Mr. Rhett Moody, Duke Energy (Edwardsport Generating
Station)
BRITTANY SCHOFIELD, DUKE ENERGY
EDWARDSPORT IGCC



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
Not NELAP Accredited
4860 Blazer Parkway
Dublin, OH 43017
(614)486-5421

Pace Analytical Services, Inc.
7726 Moller Road
Indianapolis, IN 46268
(317)228-3100

CERTIFICATIONS

Project: Edwardsport Grey Water Profile
Pace Project No.: 50127521

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268
Illinois Certification #: 200074
Indiana Certification #: C-49-06
Kansas Certification #: E-10177
Kentucky UST Certification #: 0042
Kentucky WW Certification #: 98019
Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065
Oklahoma Certification #: 2014-148
Texas Certification #: T104704355-15-9
West Virginia Certification #: 330
Wisconsin Certification #: 999788130
USDA Soil Permit #: P330-10-00128

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50127521001	20150910-015	Water	09/10/15 09:30	09/11/15 09:15
50127521002	20150910-016	Water	09/10/15 09:25	09/11/15 09:15
50127521003	20150910-017	Water	09/10/15 09:20	09/11/15 09:15
50127521004	20150908-038	Water	09/10/15 13:20	09/11/15 09:15
50127521005	20150908-039	Water	09/10/15 14:25	09/11/15 09:15
50127521006	20150908-040	Water	09/10/15 14:20	09/11/15 09:15

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50127521001	20150910-015	EPA 200.8	CAW	2
50127521002	20150910-016	EPA 200.8	CAW	2
50127521003	20150910-017	EPA 200.8	CAW	2
50127521004	20150908-038	EPA 200.8	CAW	2
50127521005	20150908-039	EPA 200.8	CAW	2
50127521006	20150908-040	EPA 200.8	CAW	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
 Not NELAP Accredited
 4860 Blazer Parkway
 Dublin, OH 43017
 (614)486-5421

Pace Analytical Services, Inc.
 7726 Moller Road
 Indianapolis, IN 46268
 (317)228-3100

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile
 Pace Project No.: 50127521

Sample: 20150910-015		Lab ID: 50127521001		Collected: 09/10/15 09:30	Received: 09/11/15 09:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	0.12	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:06	7440-38-2	
Selenium	0.16	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:06	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Sample: 20150910-016	Lab ID: 50127521002	Collected: 09/10/15 09:25	Received: 09/11/15 09:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:24	7440-38-2	
Selenium	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:24	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Sample: 20150910-017	Lab ID: 50127521003	Collected: 09/10/15 09:20	Received: 09/11/15 09:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:28	7440-38-2	
Selenium	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:28	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: 20150908-038		Lab ID: 50127521004		Collected: 09/10/15 13:20	Received: 09/11/15 09:15	Matrix: Water		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:37	7440-38-2	
Selenium	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:37	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Sample: 20150908-039	Lab ID: 50127521005	Collected: 09/10/15 14:25	Received: 09/11/15 09:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	1.1	mg/L	0.010	10	09/15/15 09:00	09/17/15 13:00	7440-38-2	
Selenium	0.26	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:41	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



Pace Analytical Services, Inc.
 Not NELAP Accredited
 4860 Blazer Parkway
 Dublin, OH 43017
 (614)486-5421

Pace Analytical Services, Inc.
 7726 Moller Road
 Indianapolis, IN 46268
 (317)228-3100

ANALYTICAL RESULTS

Project: Edwardsport Grey Water Profile
 Pace Project No.: 50127521

Sample: 20150908-040		Lab ID: 50127521006		Collected: 09/10/15 14:20	Received: 09/11/15 09:15	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:46	7440-38-2	
Selenium	ND	mg/L	0.0010	1	09/15/15 09:00	09/16/15 21:46	7782-49-2	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

QC Batch: MPRP/17732 Analysis Method: EPA 200.8
 QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
 Associated Lab Samples: 50127521001, 50127521002, 50127521003, 50127521004, 50127521005, 50127521006

METHOD BLANK: 1378676 Matrix: Water
 Associated Lab Samples: 50127521001, 50127521002, 50127521003, 50127521004, 50127521005, 50127521006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	09/16/15 19:56	
Selenium	mg/L	ND	0.0010	09/16/15 19:56	

LABORATORY CONTROL SAMPLE: 1378677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	.04	0.038	94	85-115	
Selenium	mg/L	.04	0.037	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1378678 1378679

Parameter	Units	50127102001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Arsenic	mg/L	4.7 ug/L	.04	0.045	.04	0.044	100	97	70-130	2	20	
Selenium	mg/L	ND	.04	0.039	.04	0.039	97	97	70-130	0	20	

MATRIX SPIKE SAMPLE: 1378680

Parameter	Units	50127521003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	ND	.04	0.038	95	70-130	
Selenium	mg/L	ND	.04	0.037	93	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: Edwardsport Grey Water Profile
Pace Project No.: 50127521

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Edwardsport Grey Water Profile

Pace Project No.: 50127521

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50127521001	20150910-015	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942
50127521002	20150910-016	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942
50127521003	20150910-017	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942
50127521004	20150908-038	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942
50127521005	20150908-039	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942
50127521006	20150908-040	EPA 200.8	MPRP/17732	EPA 200.8	ICPM/1942

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:
 Company: **DUKE ENERGY - EDWARDSPORT**
 Address: **15404 E. SR 358 EDWARDSPORT IN 41528**
 Email To: **MARK D. PEACOCK & DUKE ENERGY, CDM**
 Phone: **812-135-5833** Fax: **812-135-5838**
 Requested Due Date/TAT:

Section B
Required Project Information:
 Report To: **MARK D. PEACOCK, DUKE ENERGY**
 Copy To: **RHETT MOODY, DUKE ENERGY, CDM**
 Project Name: **EDWARDSPORT GREY WATER TREATMENT PROJECT**
 Project Number:

Section C
Invoice Information:
 Attention: **1940534**
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: **INDIANA**
 STATE:

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Codes DW WW P SL OL WP AR TS OT	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB							
1	20150910-015	WT G		9/10	9:30							001
2	20150910-016	WT G		9/10	9:25							002
3	20150910-017	WT G		9/10	9:20							003
4	20150908-038	WT G		9/8	13:20							004
5	20150908-039	WT G		9/8	14:25							005
6	20150908-040	WT G		9/8	14:20							006
7												
8												
9												
10												
11												
12												

ADDITIONAL COMMENTS
 Relinquished by Affiliation: **Diana Reedy** 9-10-15 1025
 Accepted by Affiliation: **Fedex (ms 9/11/15)** 9/11/15 9:15
Fedex (ms 9/11/15) 9/11/15 9:15
Marcia Bennett Pace 9/11/15 9:15
 Temp in °C: **20.38 N**
 Received on Ice (Y/N):
 Custody Sealed Cooler (Y/N):
 Samples Intact (Y/N):

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **DIANA REEDY**
 SIGNATURE of SAMPLER: *Diana Reedy*
 DATE Signed (MM/DD/YYYY): **09-10-15**

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical

Client Name: Duke Energy - Edwards-Port Project # SD/27521

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: 646745406171

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Date/Time 5035A kits placed in freezer

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue (None) Samples on ice, cooling process has begun

Cooler Temperature 20.3°C
(Corrected, if applicable)

Ice Visible in Sample Containers: yes no

Date and Initials of person examining contents: MB 9/11/15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>see line #8 MB</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	5.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>no collection date & time on COC</u> <u>see container count MB</u>
All containers needing acid/base pres. have been checked? <small>exceptions: VOA, coliform, TOC, O&G</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. (Circle) <u>HNO3</u> H2SO4 NaOH NaOH/ZnAc
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.		
Residual Chlorine Check (SVOC 625 Pest/PCB 608)	<u>NA</u>	10. Present Absent
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Headspace TCLP Volatiles	<input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u>	12.
Headspace Wisconsin Sulfide / Acidity	<input type="checkbox"/> Yes <input type="checkbox"/> No <u>NA</u>	13.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Project Manager Review		
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17.

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Project Manager Review: Kenneth Hunt

Date: 9/11/15

Sample Container Count

CLIENT: Duke Energy - Edwardsport

COC PAGE 1940534
 of
 COC ID# 1940534

Project # _____

Sample Line Item	Item	AG0U	WG1U	WG2U	AG0U R 4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	AG2U	pH <2	pH >9	pH >12		
1																						
2																						✓
3																						✓
4																						✓
5																						✓
6																						✓
7																						✓
8																						
9																						
10																						
11																						
12																						

9/10/15 @ 9:30
 9/10/15 @ 9:25
 9/10/15 @ 9:20
 9/8/15 @ 13:20
 9/8/15 @ 14:25
 9/8/15 @ 14:20

Container Codes

Container Code	Description	BP1N	BP1S	BP1U	BP1Z	BP2A	BP2O	BP2Z	AF	BP3C	BP3Z	C	DG9B	DG9M	DG9P	DG9S	DG9T	DG9U	SP5T	JGFU	U	VG9H	VG9T	VG9U	VSG	WGFJ	ZPLC
DG9H	40mL HCL amber vial																										
AG1U	1liter unpreserved amber glass																										
WG1U	4oz clear soil jar																										
R	terra core kit																										
BP2N	500mL HNO3 plastic																										
BP2U	500mL unpreserved plastic																										
BP2S	500mL H2SO4 plastic																										
BP3N	250mL HNO3 plastic																										
BP3U	250mL unpreserved plastic																										
BP3S	250mL H2SO4 plastic																										
AG3S	250mL H2SO4 glass amber																										
AG1S	1 liter H2SO4 amber glass																										
BP1U	1 liter unpreserved plastic																										